

Utah Department of Transportation



Orange Book Design Process

November 2005

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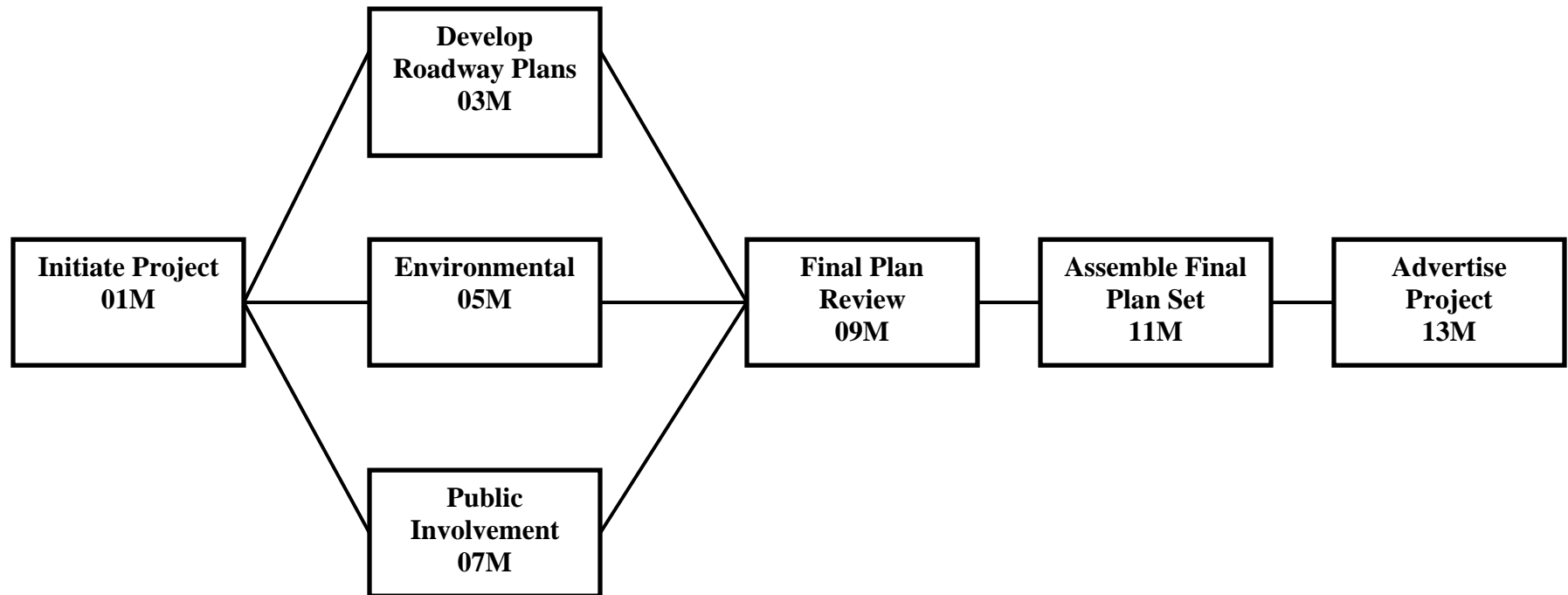
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Orange Book Projects Activity Network

March 2005



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Activity 01M Initiate Project

TASK	RESPONSIBLE PARTIES			
	PM	Designer	P.I.C.	Construction
<input type="checkbox"/> Kick off Meeting	X	X	X	X
<input type="checkbox"/> Verify Project Limits	X	X		
<input type="checkbox"/> Public Involvement	X		X	
<input type="checkbox"/> Submit Request form for PDBS Setup		X		X
<input type="checkbox"/> Status Project in ePM	X			
<input type="checkbox"/> Request Environmental Clearances	X			
<input type="checkbox"/> Identify Safety/Guardrail Issues		X		
<input type="checkbox"/> Request Traffic & Safety Clearance	X			
<input type="checkbox"/> Request Risk Assessment	X			

Kick off Meeting

The Project Manager determines what functional units will be involved in the design and construction of the project. The Project Manager holds a kickoff meeting with the members of the team to develop and approve the project charter, scope, schedule, budgets, and communication plan.

Verify Project Limits

The Project Manager works with the Region Pavement Engineer and/or Maintenance Engineer to confirm the project limits. The Highway Reference Manual may be used. Remember to consider on/off ramps, intersections, etc.

Public Involvement

The Project Manager talks with the Region P.I.C. to see if there may be any special needs with potentially impacted customers.

Submit Request form for PDBS Setup

The Designer submits request to Central Construction for project to be set up in PDBS.

Status Project in ePM

The Project Manager updates ePM schedule, budget, and resource information.

Request Environmental Clearances

The Project Manager contacts the Region Environmental Engineer to request all necessary environmental clearances.

Identify Safety/Guardrail Issues

The Designer reviews project limits to identify any safety issues or needed guardrail repairs or updates.

Request Traffic and Safety Clearances

The Project Manager contacts State Safety to determine if there are any issues with guardrail, attenuators, or pedestrian ramps that need to be addressed.

Request Risk Assessment

The Project Manager contacts the Risk Management Division to request that the Risk Assessment be completed.

Activity: 03M Develop Roadway Plans

Task	RESPONSIBLE PARTIES			
	PM	Designer	Region Pavement Engineer	
<input type="checkbox"/> Pavement Design	X		X	
<input type="checkbox"/> Determine Bid Items and Quantities		X		
<input type="checkbox"/> Pedestrian Ramps		X		
<input type="checkbox"/> Guardrail		X		
<input type="checkbox"/> Location Map		X		
<input type="checkbox"/> Special Provisions	X	X		
<input type="checkbox"/> Typical Section and Details Drawings		X		
<input type="checkbox"/> PDBS Project Input/Engineer's Estimate	X	X		

Pavement Design

The Project Manager requests Pavement Design from the Region Pavement Management Engineer. The Designer uses the pavement design recommendation in calculating asphalt quantities and in determining the types of asphalt which will be used in the project.

Determine Bid Items and Quantities

The Designer, after receiving the project scope and project limits from the PM, coordinates field-gathering efforts to obtain surface areas and items within the project scope. This information is compiled to determine the individual items and quantities on the Engineer's Estimate.

Pedestrian Ramps

The Designer, using current UDOT standards and resources from Region and State Safety personnel, determines need and location of pedestrian ramps that need to be constructed to bring road section up to current standards.

Guardrail

The Designer, using current UDOT standards and resources from Region and State Safety personnel, determines need and location of guardrail and attenuation systems to be constructed to bring road section up to current standards.

Location Map

The Designer denotes the location of the project on a map, 8 ½ " X 11" in size. The area to be treated is highlighted and the beginning and ending milepost limits are specified.

Special Provisions

The Designer rewrites or makes changes or additions to any special provision that is needed and unique to the project. The special provisions are compiled and included in the bid package. The Project Manager will be involved with writing the special provisions, as s/he will be aware of any special circumstances that need to be addressed.

Typical Sections & Detailed Drawings

The Designer drafts drawings, 8 ½ “ X 11” in size. These drawings explain to all personnel involved in the construction of the project how bid items are to be constructed and their precise locations.

PDBS Project Input/Engineer’s Estimate

The Designer inputs the project bid items and quantities into PDBS with the respective stations and/or locations, and any special notes that are necessary to further explain the quantities and locations of each item.

Activity: 05M Environmental Clearances

TASK	RESPONSIBLE PARTIES			
	PM	Region Environmental Engineer	Region Archaeologist	State Biologist
<input type="checkbox"/> Write Cultural Clearance Requests	X	X	X	
<input type="checkbox"/> Complete CAT X Form	X	X		
<input type="checkbox"/> Letter to USFWS (Federal Projects Only)				X

Write Cultural Clearance Requests

Project Manager notifies Region Archaeologist of Pavement Preservation project. Region Archaeologist writes appropriate letters stating there are no impacts.

Complete CAT X Form

Project Manager requests the Region Environmental Engineer complete the Categorical Exclusion Form and obtain all environmental clearance letters that may be necessary.

Letter to USFWS - For Federal Aid Projects, the State Biologist will write a letter the US Fish and Wildlife Service requesting clearance to move forward with the project.

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Activity: 07M Public Involvement

TASK	RESPONSIBLE PARTIES			
	PM	Region P.I.C.		
<input type="checkbox"/> Talk with Region P.I.C.	X	X		
<input type="checkbox"/> Contact Local Agencies		X		

Talk with Region P.I.C.

Project Manager meets with Region P.I.C. to determine if there may be any special needs that should be considered.

Contact Local Agencies

The Region P.I.C. may contact Local Agencies to inform them of the upcoming project. The Region P.I.C. and Project Manager work with Local Agencies to minimize potential impacts.

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Activity: 09M Final Plan Review

TASK	RESPONSIBLE PARTIES							
	PM	Designer	Region Pavement Engineer	Region Operations Engineer	Area Supervisor	Resident Engineer	Preconstruction Engineer	Region Construction Engineer
<input type="checkbox"/> Assemble Plans and Specifications	X	X						
<input type="checkbox"/> Review Plans and Specifications	X	X	X	X	X	X	X	X
<input type="checkbox"/> Make Revisions	X	X						
<input type="checkbox"/> Contract Maintenance Project Approval Form	X							

Assemble Plans and Specifications

The PM may have the Designer assist them in the assembly of the project package. The project package should contain the roadway plans, typical sections, special provisions and the engineer's estimate. The package is distributed to the following for review: Region Pavement Engineer, Operation/District Engineer, Area Supervisor, Resident Engineer, Region Preconstruction Engineer, Region Construction Engineer, Region Traffic Engineer, Maintenance Shed Supervisor, Materials Engineer.

Review Plans and Specifications

Those that have received a project package should review it for completeness and clarity. The review may take place in an organized meeting or on an individual's own time. During the review, individuals make detailed notes of problems/issues that need to be addressed.

Make Revisions

The Project Manager may work with the Designer to make any necessary corrections, revisions, and changes to the plans, specifications, and Engineer's Estimate based on the comments received from the Review.

Contract Maintenance Project Approval Form

This form is for use by the Maintenance Planning Division and summarizes the entire project. The information on the form includes: Project number; CID; PIN; State or Federal funding; what type of funding (Pavement or Structure Preservation, Maintenance or Safety Spot Improvement, Code One); Name of Project.

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Activity: 11M Assemble Final Plan Set

TASK	RESPONSIBLE PARTIES			
	PM	PM Tech		
<input type="checkbox"/> Assemble Final Plan Set	X	X		

Assemble Final Plan Set

Project Management Tech follows the Advertising Checklist in assembling all documents required in the bid package.

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Activity: 13M Advertise Project

TASK	RESPONSIBLE PARTIES			
	PM	Central Construction		
<input type="checkbox"/> Produce Contract Documents Package		X		
<input type="checkbox"/> Advertise for Bids		X		
<input type="checkbox"/> Addendum	X	X		
<input type="checkbox"/> Receive Bids		X		

Produce Contract Documents Package

Central Construction process and prints the plans and specifications

Advertise for Bids

Central Construction issues the “Notice to Contractors” which provides a brief description of the project and the bid opening date.

Addendum

Project Manager develops addendum when modifications to the contract documents are needed after plans have been distributed to prospective bidders. Construction Division issues addenda to all plan holders, requesting acknowledgement of receipt.

Receive Bids

Construction Division receives the sealed bids for opening at the designated date and time. Project is awarded.